

APPENDIX G

DESCRIPTION OF FUNCTIONAL EQUIVALENCY OF NON-ORIGINAL EQUIPMENT MANUFACTURER REPOWERS AND REBUILT ENGINES FOR USE IN REPOWERS

Appendix G

Description of Functional Equivalency of Non-Original Equipment Manufacturer Repowers and Rebuilt Engines for use in Repowers

A repower or an engine rebuild may be performed by the original equipment manufacturer (OEM) or a non-OEM. An OEM, for the purposes of the Carl Moyer Program, means any person engaged in the manufacturing or assembling of new vehicles or equipment for resale under its own brand name. These manufacturers provide the original product design and materials for the equipment assembly and manufacture and are directly responsible for manufacturing and modifying the products, making them commercially available, and providing the warranty.

A. Non-Original Equipment Manufacturer Repowers

The Carl Moyer Program provides funding opportunities for equipment repowers with a lower emission engine; like-to-like repowers are not eligible for funding. A non-OEM repower consists of removing an existing engine and replacing it with a lower emission certified engine; however the installer does not use the procedures and/or parts specified by the OEM in their repower documentation. A non-OEM repower must be “*functionally equivalent*” to an OEM repower with regard to emissions, durability, and safety to be eligible for Carl Moyer Program funding. The non-OEM repower must also maintain the emission performance of the replacement engine in operation.

1. Requirements to Establish Functional Equivalency

The following actions are necessary and sufficient for Carl Moyer Program applicants to follow when demonstrating functional equivalency.

The Carl Moyer Program applicant must:

- (A) Submit to the Air Pollution Control Officer/Executive Officer of the governing air district a list of OEM and non-OEM parts to be used in the repower and the corresponding components that they replace (if replacing parts).
- (B) Submit a letter of qualification from the installer who will perform the work.
- (C) Submit a detailed description of the work to be performed on the equipment including necessary engine mapping and drawings and engineering analyses to demonstrate emission levels, safety, and durability.

The following further explain these requirements:

(1) List of Functionally Equivalent Parts

Carl Moyer Program applicants proposing to perform non-OEM repowers must submit to the Air Pollution Control Officer/Executive Officer of the governing air district the following information for each repower:

- a. The serial number, make, model year and configuration of both the original engine and the replacement engine.
- b. The component parts list (CPL) or arrangement numbers for both the original engine and the replacement engine, including the exhaust and cooling systems if modified during the repower.
- c. The original equipment (OE) number and description of parts replaced.
- d. The replacement part identification number.
- e. A statement that all non-OEM replacement parts are functionally equivalent to the corresponding OE parts.

The applicant or the non-OEM installer must also comply with any request from ARB or the Air Pollution Control Officer/Executive Officer of the governing air district for any additional information, including sample parts for inspection and records required by California Code of Regulations, title 13, section 2221 (b).

(2) Letter of Qualification

Any Carl Moyer Program applicant proposing to perform a non-OEM repower must submit a letter of qualification from the installer addressed to the Air Pollution Control Officer/Executive Officer of the governing air district. The letter should describe the installer's operations and experience. It must include the following:

- a. The name and address(es) of the installer.
- b. The length of time the installer has been operating.
- c. The number of employees and how many are actually involved in installing engines.
- d. The type of heavy-duty equipment it repowers.
- e. The number of items it normally repowers annually.
- f. Background and experience of the owners including education, training and certifications; previous heavy-duty engine repowers experience; and any experience with an OEM or its franchised dealers.
- g. Whether the business specializes in any particular type or make of heavy-duty equipment.
- h. Whether it has performed work under the Carl Moyer Program; any other state or local program; or for any federal, state or local agency.

- i. Whether it has ever been investigated for malpractice or tampering with any engines, vehicles, or equipment and if so, the results of the investigation.

The letter must be signed by the owner of the business and must include the following statement:

"I affirm that the repower described in the Carl Moyer Program application will use only OE parts or non-OE parts from the parts list submitted to the air district. The replacement engine will be functionally equivalent from a durability standpoint to one offered by the OEM in the same power category and will maintain the emissions performance of the replacement engine in operation. Furthermore, the repowered equipment will maintain all safety specifications of the original equipment."

After review of the letter, the air district or ARB may request additional information.

(3) Description of Work to be Performed

The Carl Moyer Program applicant must submit an additional letter describing the proposed work or work already performed on the equipment. The letter must confirm that the parts used are equivalent to the CPL parts or corresponding arrangement number parts. In addition, the letter must include details on required equipment modifications with pictures of the equipment and engineering drawings as necessary.

The letter must also state that the repowered equipment is functionally equivalent from a durability standpoint to one offered by the OEM in the same power category and that the emission performance of the engine is maintained in operation. Any test data that substantiate these emission claims shall be attached or included in the letter.

2. Other Restrictions and Considerations

ARB or the air district may require emission testing on any piece of equipment, whether repowered by an OEM or non-OEM. Emissions testing may be specified prior to approval of a project as a condition of the grant, but normally will not be specified unless ARB has reason to believe that a proposed repower will not be functionally equivalent from an emissions and durability standpoint to an OEM repower. Emissions testing may also be required after the project has been completed, but normally will not be specified except in cases where there is evidence of malpractice or tampering. Engines that do not achieve the stated emission levels may be denied all or part of the requested funding. In cases where the money has already been disbursed, the applicant will be responsible for

providing an acceptable engine or for reimbursing the State for Carl Moyer Program funds expended. In addition, other penalties may apply.

B. Non-Original Equipment Manufacturer Rebuilt Engines for Use in Repowers

The Carl Moyer Program provides funding opportunities for equipment repowers using rebuilt engines. A non-OEM rebuilt engine must be “*functionally equivalent*” to an OEM rebuilt engine with regard to emissions and durability to be eligible for Carl Moyer Program funding.

1. Requirements to Establish Functional Equivalency

The following actions are necessary and sufficient for Carl Moyer Program applicants to follow when demonstrating functional equivalency.

The Carl Moyer Program applicant must:

- (A) Submit to the Air Pollution Control Officer/Executive Officer of the governing air district a list of non-original equipment parts or to be used in the rebuilt engine and the corresponding components that they replace.
- (B) Submit a letter of qualification from the rebuilder who will perform the work.
- (C) Submit a detailed description of the work to be performed on the engine.

The following further explain these requirements:

(1) List of Functionally Equivalent Parts

Carl Moyer Program applicants proposing to use non-OEM rebuilt engines must submit to the Air Pollution Control Officer/Executive Officer of the governing air district the following information for each rebuilt engine:

- a. The serial number, make, model year and configuration of the original engine.
- b. The CPL or arrangement numbers for the original engine.
- c. The OE number and description of parts replaced.
- d. The replacement part identification number.
- e. A statement that all non-OEM replacement parts are functionally equivalent, as defined in the equivalency provision by California Code of Regulations, title 13, section 2421 (a)(13) to the corresponding OE parts.

The applicant or the non-OEM replacement part manufacturer must also comply with any request from ARB or Air Pollution Control Officer/Executive

Officer of the governing air district for any additional information, including sample parts for inspection and records required by California Code of Regulations, title 13, section 2221(b).

(2) Letter of Qualification

Any Carl Moyer Program applicant proposing to use a non-OEM rebuilt engine must submit a letter of qualification from the rebuilder addressed to the Air Pollution Control Officer/Executive Officer of the governing air district. The letter should describe the rebuilder's operations and experience. It must include the following:

- a. The name and address(es) of the rebuilder.
- b. The length of time the rebuilder has been operating.
- c. The number of employees and how many are actually involved in rebuilding engines.
- d. The type of heavy-duty parts it rebuilds (full engines, fuel systems, blocks, etc.).
- e. The number of items it normally rebuilds annually.
- f. Background and experience of the owners including: education, training and certifications; previous heavy-duty engine rebuild experience; and any experience with an OEM or its franchised dealers.
- g. Whether the business specializes in any particular type or make of heavy-duty engine or parts.
- h. Whether it has performed work under the Carl Moyer Program; any other state or local program; or for any federal, state or local agency.
- i. Whether it has ever been investigated for malpractice or tampering with any engines, vehicles, or equipment, and if so, the results of the investigation.

The letter must be signed by the owner of the business and must include the following statement:

"I affirm that the rebuilt engine described in the Carl Moyer Program application will use only OE parts or non-OE parts from the parts list submitted to the air district. Furthermore, the rebuilt engine will be functionally equivalent from an emissions and durability standpoint to the OEM engine it is replacing."

After review of the letter the air district or ARB may request additional information.

(3) Description of Work to be Performed

The Carl Moyer Program applicant must submit an additional letter describing the proposed work or work already performed on the rebuilt engine. The

letter must confirm that the parts used are equivalent to the CPL parts or corresponding arrangement number parts and that the rebuilt engine has the same configuration as the original engine. In addition, any re-calibrations or adjustments performed on the engine or engine components must be set forth in detail, as well as any work performed on parts that were taken out of the engine and re-inserted.

The letter must also state that the rebuilt engine is functionally equivalent to an OEM rebuilt engine with regard to emissions and durability. Any test data that substantiate these emission claims shall be attached or included in the letter.

2. Other Restrictions and Considerations

ARB may require emission testing on any engine, whether rebuilt by an OEM or non-OEM rebuilder. Engine testing may be specified prior to approval of a project as a condition of the grant for all rebuilders rebuilding under the grant, but normally will not be specified unless ARB has reason to believe that a proposed rebuilt engine will not be functionally equivalent from an emissions and durability standpoint to the OEM engine it is replacing. Engine testing may also be required after the project has been completed, but normally will not be specified except in cases where there is evidence of malpractice or tampering. Engines that do not achieve the stated emission levels may be denied all or part of the requested funding. In cases where the money has already been disbursed, the applicant will be responsible for providing an acceptable engine or for reimbursing the State for Carl Moyer Program funds expended. In addition, other penalties may apply.